CLAIMS

What is claimed is:

1.   A network switch comprising:

2   a first media access controller (MAC) coupled to a plurality of ports;

3   a transmitter coupled to the first MAC; and

4   packet queuing control (PQC) coupled to the receiver, wherein the PQC

5 includes:

6   a main queue for storing information corresponding to one or

7 more data packets to be transmitted from the network switch as unicast

8 transactions; and

9   a broadcast queue, for storing information corresponding to one or

10 more data packets to be transmitted from the network switch as broadcast

11 transactions.

1 2.   The network switch of claim 1 wherein the broadcast queue comprises a

2 plurality of port queues, wherein each of the plurality of port queues

3 corresponds to one of the plurality of ports.

1 3.   The network switch of claim 2 wherein the plurality of port queues

2 comprise:

3   a first port queue for storing information corresponding to one or more

4 data packets to be transmitted from a first of the plurality of ports; and

5   a second port queue for storing information corresponding to one or more

6   data packets to be transmitted from a second of the plurality of ports.

1   4.   The network switch of claim 2 wherein the information stored in the main

2   queue and the broadcast queue includes a port number from which a data packet

3   stored in a corresponding memory location is to be transmitted.

1   5.   The network switch of claim 4 wherein the information stored in the main

2   queue and the broadcast queue further includes a pointer to the next queue

3   location from which a data packet stored in a corresponding memory location is

4   to be transmitted.

1   6.   The network switch of claim 5 wherein pointers to a next queue are stored

2   in the main queue for unicast transactions and stored in the plurality of

3   broadcast port queues for broadcast transactions.

1   7.   The network switch of claim 1 further comprising:

2   address resolution logic (ARL) coupled to the PQC;

3   a receiver coupled to the ARL; and

4   a second MAC coupled to the receiver.

1   8.   A packet queuing control (PQC) comprising:

2   a main queue for storing information corresponding to one or more data

3   packets to be transmitted from a network switch as unicast transactions; and

4   a broadcast queue, for storing information corresponding to one or more

5   data packets to be transmitted from a network switch as broadcast transactions.

1   9.   The network switch of claim 8 wherein the broadcast queue comprises a

2   plurality of port queues, wherein each of the plurality of port queues

3   corresponds to one of the plurality of ports.

1   10.   The network switch of claim 9 wherein the plurality of port queues

2   comprise:

3   a first port queue for storing information corresponding to one or more

4   data packets to be transmitted from a first of the plurality of ports; and

5   a second port queue for storing information corresponding to one or more

6   data packets to be transmitted from a second of the plurality of ports.

1   11.   The network switch of claim 9 wherein the information stored in the main

2   queue and the broadcast queue includes a port number from which a data packet

3   stored in a corresponding memory location is to be transmitted.

1   12.   The network switch of claim 11 wherein the information stored in the

2   main queue and the broadcast queue further includes a pointer to the next queue

3   location from which a data packet stored in a corresponding memory location is

4   to be transmitted.

1   13.   The network switch of claim 12 wherein pointers to a next queue are

2   stored in the main queue for unicast transactions and stored in the plurality of

3   broadcast port queues for broadcast transactions.

1   14.   A method comprising:

2   receiving a first data packet at a first input port coupled to a network

3   switch;

4   determining whether the first data packet is to be transmitted from the

5   network switch as a unicast transaction; and

6   if so, storing a pointer in a main queue corresponding to the next location

7   in the main queue corresponding to a memory location from which data is to be

8   transmitted from the network switch;

9   otherwise, storing a plurality of pointers in a broadcast queue

10   corresponding to the next location in the main queue corresponding to a memory

11   location from which data is to be transmitted from the network switch.

1   15.   The method of claim 14 wherein the process of storing a plurality of

2   transaction pointers corresponding to the first memory location in a broadcast

3   queue comprises:

4   storing the pointer in a first port queue in the broadcast queue, wherein

5   the first port queue corresponds to a first output port coupled to the network

6   switch; and

7   storing the pointer in a second port queue in the broadcast queue, wherein

8 the second port queue corresponds to a second output port coupled to the

9 network switch.

1 16.   The method of claim 15 further comprising:

2   transmitting the first data packet from the network switch via the first

3 output port; and

4   transmitting the first data packet from the network switch via the second

5 output port.